

REMARKS

Initially, in accordance with Applicants' duty to provide a statement regarding the substance of an interview, Applicants submit that an interview with Examiner Mirza occurred on August 6, 2009. During that interview, Applicants' representative described the claimed invention and differences between the features recited in claim 1 and the disclosures of Sundqvist (U.S. Patent Application Publication No. 2001/0023445) and Vega-Garcia et al. (U.S. Patent No. 7,151,749). The Examiner requested clarification of the storing of data in the memory and the reading of data from the memory. No specific agreement was reached.

In the final Office Action, the Examiner rejected claims 1-44, 46-57, 59 and 61-64 under 35 U.S.C. § 103(a) as unpatentable over Sundqvist in view of Vega-Garcia et al.

By this Amendment, Applicants amend claims 1, 6-8, 12-18, 21, 23-31, 36, 37, 40, 41, 44, 46, 47, 49, 55, 56, and 59 to improve form. Applicants respectfully traverse the Examiner's rejection under 35 U.S.C. § 103. Claims 1-44, 46-57, 59, and 61-64 remain pending.

In paragraphs 1-25 of the final Office Action, the Examiner rejected claims 1-44, 46-57, 59, and 61-64 under 35 U.S.C. § 103(a) as allegedly unpatentable over Sundqvist in view of Vega-Garcia et al. Applicants traverse the rejection.

As an initial matter, Applicants note that the Vega-Garcia et al. reference has a filing date after the filing date of Applicants' application. The Vega-Garcia et al. reference was filed on January 22, 2002, which is after the November 26, 2001 filing date of Applicants' application. The Vega-Garcia et al. reference claims priority to a

provisional application that was filed on June 14, 2001. *Thus, the Vega-Garcia reference is only available as a reference under 35 U.S.C. § 102(e) for what is disclosed in the provisional application.*

Independent claim 1, as amended, is directed to a system comprising a memory to store data associated with a plurality of incoming streams of different speeds; an interface controller comprising a first arbitration element to arbitrate among the streams to store the data in the memory, the first arbitration element including a number of first entries, each of the first entries indicating which of the streams is to be serviced in each of a plurality of first time slots, the streams being assigned to the first entries based on the speeds of the streams, where a quantity of the first entries, in the first arbitration element, assigned to one of the streams with a faster one of the different speeds is larger than a quantity of the first entries, in the first arbitration element, assigned to another one of the streams with a slower one of the different speeds, where the interface controller is to identify one of the first entries corresponding to a particular one of the plurality of first time slots, determine a particular one of the streams identified by the one of the first entries, and store data, associated with the particular one of the streams, in the memory; and a dispatch unit comprising a second arbitration element to arbitrate among the streams to read the data from the memory, the second arbitration element including a number of second entries, each of the second entries indicating which of the streams is to be serviced in each of a plurality of second time slots, the streams being assigned to the second entries based on the speeds of the streams, where a quantity of the second entries, in the second arbitration element, assigned to the one of the streams with the faster one of

the different speeds is larger than a quantity of the second entries, in the second arbitration element, assigned to the other one of the streams with the slower one of the different speeds, where the dispatch unit is to identify one of the second entries corresponding to a particular one of the plurality of second time slots, determine a certain one of the streams identified by the one of the second entries, and read data, associated with the certain one of the streams, from the memory.

Sundqvist and Vega-García et al., whether taken alone or in any reasonable combination, do not disclose or suggest one or more of the features recited in claim 1. For example, Sundqvist and Vega-García et al. do not disclose or suggest an interface controller comprising a first arbitration element to arbitrate among the streams to store the data in the memory, the first arbitration element including a number of first entries, each of the first entries indicating which of the streams is to be serviced in each of a plurality of first time slots, the streams being assigned to the first entries based on the speeds of the streams, where a quantity of the first entries, in the first arbitration element, assigned to one of the streams with a faster one of the different speeds is larger than a quantity of the first entries, in the first arbitration element, assigned to another one of the streams with a slower one of the different speeds, where the interface controller is to identify one of the first entries corresponding to a particular one of the plurality of first time slots, determine a particular one of the streams identified by the one of the first entries, and store data, associated with the particular one of the streams, in the memory, as recited in claim 1.

The Examiner alleged that Sundqvist discloses an interface controller that comprises a first arbitration element to arbitrate among a plurality of streams of different speeds to store data in a memory, where the first arbitration element includes a number of first entries, one of the first entries indicates which of the streams is to be serviced in a particular first time slot, and the streams are assigned to the first entries based on the speeds of the streams, and cited paragraph 0042 of Sundqvist for support (final Office Action, paragraph 1). Without acquiescing in the Examiner's allegation, Applicants submit that Sundqvist does not disclose or suggest an interface controller comprising a first arbitration element to arbitrate among the streams to store the data in the memory, the first arbitration element including a number of first entries, each of the first entries indicating which of the streams is to be serviced in each of a plurality of first time slots, the streams being assigned to the first entries based on the speeds of the streams, where a quantity of the first entries, in the first arbitration element, assigned to one of the streams with a faster one of the different speeds is larger than a quantity of the first entries, in the first arbitration element, assigned to another one of the streams with a slower one of the different speeds, where the interface controller is to identify one of the first entries corresponding to a particular one of the plurality of first time slots, determine a particular one of the streams identified by the one of the first entries, and store data, associated with the particular one of the streams, in the memory, as recited in claim 1.

At paragraph 0042, Sundqvist discloses real-time and non real-time applications that share the available bandwidth on a channel. Nowhere in paragraph 0042, or elsewhere, does Sundqvist disclose or suggest anything that can reasonably correspond to

a first arbitration element that includes a number of first entries that each indicates which of the streams is to be serviced in each of a plurality of first time slots, as recited in claim 1. Nowhere in paragraph 0042, or elsewhere, does Sundqvist disclose or suggest anything that can reasonably correspond to a first arbitration element that includes a number of first entries, where the streams are assigned to the first entries based on the speeds of the streams, as recited in claim 1. Nowhere in paragraph 0042, or elsewhere, does Sundqvist disclose or suggest anything that can reasonably correspond to a first arbitration element that includes a number of first entries, where a quantity of the first entries, in the first arbitration element, assigned to one of the streams with a faster one of the different speeds is larger than a quantity of the first entries, in the first arbitration element, assigned to another one of the streams with a slower one of the different speeds, as recited in claim 1. Nowhere in paragraph 0042, or elsewhere, does Sundqvist disclose or suggest anything that can reasonably correspond to an interface controller to identify one of the first entries corresponding to a particular one of the plurality of first time slots, determine a particular one of the streams identified by the one of the first entries, and store data, associated with the particular one of the streams, in the memory, as recited in claim 1.

Rather, Sundqvist discloses determining an amount of bandwidth required by a real-time application and controlling the non real-time application flows to guarantee that the real-time application gets the required amount of bandwidth (paragraph 0051). Determining the amount of bandwidth required by a real-time application and controlling the amount of bandwidth available to non real-time application flows are completely

different functions with completely different results from arbitrating among streams, of different speeds to store the data in the memory, as detailed in claim 1. Thus, Sundqvist does not disclose or suggest an interface controller comprising a first arbitration element to arbitrate among the streams to store the data in the memory, the first arbitration element including a number of first entries, each of the first entries indicating which of the streams is to be serviced in each of a plurality of first time slots, the streams being assigned to the first entries based on the speeds of the streams, where a quantity of the first entries, in the first arbitration element, assigned to one of the streams with a faster one of the different speeds is larger than a quantity of the first entries, in the first arbitration element, assigned to another one of the streams with a slower one of the different speeds, where the interface controller is to identify one of the first entries corresponding to a particular one of the plurality of first time slots, determine a particular one of the streams identified by the one of the first entries, and store data, associated with the particular one of the streams, in the memory, as recited in claim 1.

Vega-Garcia et al. also does not disclose or suggest an interface controller comprising a first arbitration element to arbitrate among the streams to store the data in the memory, the first arbitration element including a number of first entries, each of the first entries indicating which of the streams is to be serviced in each of a plurality of first time slots, the streams being assigned to the first entries based on the speeds of the streams, where a quantity of the first entries, in the first arbitration element, assigned to one of the streams with a faster one of the different speeds is larger than a quantity of the first entries, in the first arbitration element, assigned to another one of the streams with a

slower one of the different speeds, where the interface controller is to identify one of the first entries corresponding to a particular one of the plurality of first time slots, determine a particular one of the streams identified by the one of the first entries, and store data, associated with the particular one of the streams, in the memory, as recited in claim 1. Rather, Vega-Garcia et al. discloses a quality control system that constantly monitors networking conditions, computes the available bandwidth for outgoing streams, and dynamically alters the setting for audio and video outgoing streams to provide stream smoothness and minimize jitter and delay (provisional application, page 1, section 4, paragraph 1). Thus, the disclosure of Vega-Garcia et al. does not cure the deficiencies in the disclosure of Sundqvist.

Sundqvist and Vega-Garcia et al., whether taken alone or in any reasonable combination, also do not disclose or suggest a dispatch unit that comprises a second arbitration element to arbitrate among the streams to read the data from the memory, the second arbitration element including a number of second entries, each of the second entries indicating which of the streams is to be serviced in each of a plurality of second time slots, the streams being assigned to the second entries based on the speeds of the streams, where a quantity of the second entries, in the second arbitration element, assigned to the one of the streams with the faster one of the different speeds is larger than a quantity of the second entries, in the second arbitration element, assigned to the other one of the streams with the slower one of the different speeds, where the dispatch unit is to identify one of the second entries corresponding to a particular one of the plurality of second time slots, determine a certain one of the streams identified by the one of the

second entries, and read data, associated with the certain one of the streams, from the memory, as further recited in claim 1.

The Examiner admitted that Sundqvist does not disclose or suggest a second arbitration element to arbitrate among the streams to read the data from the memory, where the second arbitration element includes a number of second entries, one of the second entries indicates which of the streams is to be serviced in a particular second time slot, and the streams are assigned to the second entries based on the speeds of the streams (final Office Action, paragraph 1). The Examiner alleged that Vega-Garcia et al. discloses a quality control mechanism that performs three primary functions, including: (1) computing the available bandwidth for outgoing data streams, (2) dynamically selecting an optimal audio codec to be used for outgoing audio streams, and (3) dynamically selecting an optimal bandwidth and frame rate for outgoing video streams (final Office Action, paragraph 1). Regardless of the accuracy of the Examiner's interpretation of Vega-Garcia et al., the Examiner has not established that Vega-Garcia et al. discloses or suggests a dispatch unit that comprises a second arbitration element to arbitrate among the streams to read the data from the memory, the second arbitration element including a number of second entries, each of the second entries indicating which of the streams is to be serviced in each of a plurality of second time slots, the streams being assigned to the second entries based on the speeds of the streams, where a quantity of the second entries, in the second arbitration element, assigned to the one of the streams with the faster one of the different speeds is larger than a quantity of the second entries, in the second arbitration element, assigned to the other one of the streams with the slower

one of the different speeds, where the dispatch unit is to identify one of the second entries corresponding to a particular one of the plurality of second time slots, determine a certain one of the streams identified by the one of the second entries, and read data, associated with the certain one of the streams, from the memory, as recited in claim 1.

There is simply nothing in Vega-Garcia et al. that reasonably corresponds to a second arbitration element to arbitrate among the streams, of different speeds, to read the data from the memory, as recited in claim 1. Also, there is simply nothing in Vega-Garcia et al. that reasonably corresponds to a second arbitration element that includes a number of second entries, each of the second entries indicating which of the streams is to be serviced in each of a plurality of second time slots, as recited in claim 1. Also, there is simply nothing in Vega-Garcia et al. that reasonably corresponds to a second arbitration element that includes a number of second entries, where the streams are assigned to the second entries based on the speeds of the streams, as recited in claim 1. Also, there is simply nothing in Vega-Garcia et al. that reasonably corresponds to a second arbitration element that includes a number of second entries, where a quantity of the second entries, in the second arbitration element, assigned to the one of the streams with the faster one of the different speeds is larger than a quantity of the second entries, in the second arbitration element, assigned to the other one of the streams with the slower one of the different speeds, as recited in claim 1. Also, there is simply nothing in Vega-Garcia et al. that reasonably corresponds to a dispatch unit to identify one of the second entries corresponding to a particular one of the plurality of second time slots, determine a certain

one of the streams identified by the one of the second entries, and read data, associated with the certain one of the streams, from the memory, as recited in claim 1.

Rather, Vega-Garcia et al. merely discloses computing the available bandwidth for outgoing data streams, dynamically selecting an audio codec, and computing bandwidth and frame rate for the outgoing video stream (provisional application, page 2, section 4, paragraph 3). Computing the available bandwidth, selecting an audio codec, and computing bandwidth and frame rate are completely different functions with completely different results from arbitrating among streams, of different speeds, to read the data from the memory, as detailed in claim 1. Thus, Vega-Garcia et al. does not disclose or suggest a dispatch unit that comprises a second arbitration element to arbitrate among the streams to read the data from the memory, the second arbitration element including a number of second entries, each of the second entries indicating which of the streams is to be serviced in each of a plurality of second time slots, the streams being assigned to the second entries based on the speeds of the streams, where a quantity of the second entries, in the second arbitration element, assigned to the one of the streams with the faster one of the different speeds is larger than a quantity of the second entries, in the second arbitration element, assigned to the other one of the streams with the slower one of the different speeds, where the dispatch unit is to identify one of the second entries corresponding to a particular one of the plurality of second time slots, determine a certain one of the streams identified by the one of the second entries, and read data, associated with the certain one of the streams, from the memory, as recited in claim 1.

For at least these reasons, Applicants submit that claim 1 is patentable over Sundqvist and Vega-Garcia et al., whether taken alone or in any reasonable combination. Claims 2-20, 59, and 62 depend from claim 1 and are, therefore, patentable over Sundqvist and Vega-Garcia et al. for at least the reasons given with regard to claim 1. Claims 2-20, 59, and 62 are also patentable over Sundqvist and Vega-Garcia et al. for reasons of their own.

For example, claim 2 recites that the memory includes a plurality of memory buckets corresponding to the streams. Sundqvist and Vega-Garcia et al., whether taken alone or in any reasonable combination, do not disclose or suggest this feature. The Examiner alleged that Sundqvist discloses this feature and cited column 28, line 65 - column 29, line 3, of Sundqvist for support (final Office Action, paragraph 3). Applicants note that there is not a column 28 or a column 29 in the disclosure of Sundqvist. Thus, the Examiner has not established a prima facie case of obviousness with regard to claim 2.

For at least these additional reasons, Applicants submit that claim 2 is patentable over Sundqvist and Vega-Garcia et al. Claim 3 depends from claim 2 and is, therefore, also patentable over Sundqvist and Vega-Garcia et al. for at least the reasons given with regard to claim 2.

Claim 4 recites that each of the first entries includes a stream number that identifies one of the streams. Sundqvist and Vega-Garcia et al., whether taken alone or in any reasonable combination, do not disclose or suggest this feature. The Examiner alleged that Sundqvist discloses this feature and cited paragraph 0053 of Sundqvist for

support (final Office Action, paragraph 5). Applicants submit that Sundqvist provides no support for the Examiner's allegation.

At paragraph 0053, Sundqvist discloses that the FCA decides if and how much a non real-time application should be reduced based on information received from a real-time application about the bandwidth that the real-time application is going to need. There is nothing in this section of Sundqvist that reasonably corresponds to a stream number. Thus, Sundqvist does not disclose or suggest that each of the first entries includes a stream number that identifies one of the streams, as recited in claim 4.

For at least these additional reasons, Applicants submit that claim 4 is patentable over Sundqvist and Vega-Garcia et al. Claims 6-8 depend from claim 4 and are, therefore, also patentable over Sundqvist and Vega-Garcia et al. for at least the reasons given with regard to claim 4.

Claim 5 recites that the number of the first entries in the first arbitration element is programmable. Sundqvist and Vega-Garcia et al., whether taken alone or in any reasonable combination, do not disclose or remotely suggest this feature.

The Examiner alleged that Vega-Garcia et al. discloses this feature and cited column 8, lines 1-15, of Vega-Garcia et al. for support (final Office Action, paragraph 6). Applicants submit that Vega-Garcia et al. does not support the Examiner's allegation.

At column 8, lines 1-15, Vega-Garcia et al. discloses a quality control mechanism that performs three functions, including: (1) computing the available bandwidth for outgoing data streams, (2) dynamically selecting an optimal audio codec to be used for outgoing audio streams, and (3) dynamically selecting an optimal bandwidth and frame

rate for outgoing video streams. Nowhere in this section, or elsewhere, does Vega-Garcia et al. disclose or remotely suggest a first arbitration element that includes a number of first entries, let alone that the number of the first entries in the first arbitration element is programmable, as recited in claim 5.

For at least these additional reasons, Applicants submit that claim 5 is patentable over Sundqvist and Vega-Garcia et al.

Claim 9 recites that the first and second arbitration elements are synchronized. Sundqvist and Vega-Garcia et al., whether taken alone or in any reasonable combination, do not disclose or suggest this feature. The Examiner alleged that Vega-Garcia et al. discloses this feature and cited column 12, lines 1-15, of Vega-Garcia et al. for support (final Office Action, paragraph 10). Applicants submit that Vega-Garcia et al. provides no support for the Examiner's allegation.

At column 12, lines 1-15, Vega-Garcia et al. discloses that various codecs reported by devices are ordered, and that the devices negotiate between one another to select a mutual codec preference and order. Nowhere in this section, or elsewhere, does Vega-Garcia et al. disclose or suggest a first arbitration element or a second arbitration element, as recited in claim 1, let alone first and second arbitration elements that are synchronized, as recited in claim 9.

For at least these additional reasons, Applicants submit that claim 9 is patentable over Sundqvist and Vega-Garcia et al.

Claim 10 recites that each of the second entries includes a stream number that identifies one of the streams. Sundqvist and Vega-Garcia et al., whether taken alone or in

any reasonable combination, do not disclose or suggest this feature. The Examiner alleged that Vega-Garcia et al. discloses this feature and cited column 7, lines 40-49, of Vega-Garcia et al. for support (final Office Action, paragraph 11). Applicants submit that Vega-Garcia et al. provides no support for the Examiner's allegation.

At column 7, lines 40-49, Vega-Garcia et al. discloses means for enhancing the experience of users of devices engaged in a real-time communication session. Nowhere in this section, or elsewhere, does Vega-Garcia et al. disclose or remotely suggest a second arbitration element that includes a number of second entries, let alone that each of the second entries includes a stream number that identifies one of the streams, as recited in claim 10.

For at least these additional reasons, Applicants submit that claim 10 is patentable over Sundqvist and Vega-Garcia et al. Claim 12 depends from claim 10 and is, therefore, also patentable over Sundqvist and Vega-Garcia et al. for at least the reasons given with regard to claim 10.

Claim 11 recites that the number of the second entries in the second arbitration element is programmable. Sundqvist and Vega-Garcia et al., whether taken alone or in any reasonable combination, do not disclose or remotely suggest this feature.

The Examiner alleged that Vega-Garcia et al. discloses this feature and cited column 7, lines 40-49, of Vega-Garcia et al. for support (final Office Action, paragraph 12). Applicants submit that Vega-Garcia et al. provides no support for the Examiner's allegation.

At column 7, lines 40-49, Vega-Garcia et al. discloses means for enhancing the experience of users of devices engaged in a real-time communication session. Nowhere in this section, or elsewhere, does Vega-Garcia et al. disclose or remotely suggest a second arbitration element that includes a number of second entries, let alone that the number of the second entries in the second arbitration element is programmable, as recited in claim 11.

For at least these additional reasons, Applicants submit that claim 11 is patentable over Sundqvist and Vega-Garcia et al.

Claim 13 recites flow control logic to initiate flow control on the storing of data in the memory. Sundqvist and Vega-Garcia et al., whether taken alone or in any reasonable combination, do not disclose or suggest this feature. The Examiner alleged that Sundqvist discloses this feature and cited paragraph 0053 of Sundqvist for support (final Office Action, paragraph 14). Applicants submit that Sundqvist provides no support for the Examiner's allegation.

At paragraph 0053, Sundqvist discloses that the FCA decides if and how much a non real-time application should be reduced based on information received from a real-time application about the bandwidth that the real-time application is going to need. Nowhere in this section does Sundqvist disclose a memory to store data associated with a plurality of incoming streams of different speeds and, therefore, Sundqvist cannot disclose or suggest flow control logic to initiate flow control on the storing of data in the memory, as recited in claim 13.

For at least these additional reasons, Applicants submit that claim 13 is patentable over Sundqvist and Vega-Garcia et al. Claims 14-18 depend from claim 13 and are, therefore, also patentable over Sundqvist and Vega-Garcia et al. for at least the reasons given with regard to claim 13.

Claim 19 recites that each of the streams has an associated watermark for performing flow control on the storing of data in the memory. Sundqvist and Vega-Garcia et al., whether taken alone or in any reasonable combination, do not disclose or suggest this feature. The Examiner alleged that Sundqvist discloses this feature and cited paragraph 0053 of Sundqvist for support (final Office Action, paragraph 20). Applicants submit that Sundqvist provides no support for the Examiner's allegation.

At paragraph 0053, Sundqvist discloses that the FCA decides if and how much a non real-time application should be reduced based on information received from a real-time application about the bandwidth that the real-time application is going to need. Nowhere in this section does Sundqvist disclose or suggest a watermark for performing flow control, let alone that each of a plurality of streams has an associated watermark for performing flow control on the storing of data in memory, as recited in claim 19.

For at least these additional reasons, Applicants submit that claim 19 is patentable over Sundqvist and Vega-Garcia et al.

Claim 20 recites that each of the streams has two associated watermarks for performing flow control on the storing of data in the memory. Sundqvist and Vega-Garcia et al., whether taken alone or in any reasonable combination, do not disclose or suggest this feature. The Examiner alleged that Sundqvist discloses this feature and cited

paragraph 0053 of Sundqvist for support (final Office Action, paragraph 21). Applicants submit that Sundqvist provides no support for the Examiner's allegation.

At paragraph 0053, Sundqvist discloses that the FCA decides if and how much a non real-time application should be reduced based on information received from a real-time application about the bandwidth that the real-time application is going to need. Nowhere in this section does Sundqvist disclose or suggest a watermark for performing flow control, let alone each of a plurality of streams that has two associated watermarks for performing flow control on the storing of data in memory, as recited in claim 20.

For at least these additional reasons, Applicants submit that claim 20 is patentable over Sundqvist and Vega-Garcia et al.

Claim 59 recites that at least one of the first arbitration element or the second arbitration element is to be reprogrammed when the speed of one of the streams changes. Sundqvist and Vega-Garcia et al., whether taken alone or in any reasonable combination, do not disclose or remotely suggest this feature.

The Examiner alleged that Vega-Garcia et al. discloses this feature, and cited column 7, lines 40-49, of Sundqvist for support (final Office Action, paragraph 24). Applicants submit that Vega-Garcia et al. provides no support for the Examiner's allegation.

At column 7, lines 40-49, Vega-Garcia et al. discloses means for enhancing the experience of users of devices engaged in a real-time communication session. Nowhere in this section, or elsewhere, does Vega-Garcia et al. disclose or suggest a first or second arbitration element, let alone that at least one of a first arbitration element or a second

arbitration element is to be reprogrammed when the speed of one of the streams changes, as recited in claim 59.

For at least these additional reasons, Applicants submit that claim 59 is patentable over Sundqvist and Vega-Garcia et al.

Claim 62 recites that the at least one of the first arbitration element or the second arbitration element is reprogrammed to change the number of the first or second entries assigned to the one of the streams. Sundqvist and Vega-Garcia et al., whether taken alone or in any reasonable combination, do not disclose or remotely suggest this feature.

The Examiner alleged that Vega-Garcia et al. discloses this feature, and cited column 7, lines 40-49, of Sundqvist for support (final Office Action, paragraph 25). Applicants submit that Vega-Garcia et al. provides no support for the Examiner's allegation.

At column 7, lines 40-49, Vega-Garcia et al. discloses means for enhancing the experience of users of devices engaged in a real-time communication session. Nowhere in this section, or elsewhere, does Vega-Garcia et al. disclose or suggest a first or second arbitration element, let alone that at least one of the first arbitration element or the second arbitration element is reprogrammed to change the number of the first or second entries assigned to the one of the streams, as recited in claim 62.

For at least these additional reasons, Applicants submit that claim 62 is patentable over Sundqvist and Vega-Garcia et al.

Independent claim 21 recites features similar to, yet possibly different in scope from, features identified above with regard to claim 1. Claim 21 is, therefore, patentable

over Sundqvist and Vega-Garcia et al., whether taken alone or in any reasonable combination, for at least reasons similar to the reasons given with regard to claim 1.

Claims 22-39, 61, and 63 depend from claim 21 and are, therefore, patentable over Sundqvist and Vega-Garcia et al. for at least the reasons given with regard to claim 21. Claims 22-39, 61, and 63 also recite features similar to, but possibly different in scope from, features recited in claims 2-20, 59, and 62. Claims 22-39, 61, and 63 are, therefore, also patentable over Sundqvist and Vega-Garcia et al. for at least reasons similar to reasons given with regard to claims 2-20, 59, and 62.

Independent claim 40 is directed to a system for performing flow control on data in a plurality of incoming streams of variable speeds. The system comprises a buffer to temporarily store data from a plurality of streams of variable speeds in a plurality of entries, a counter to determine a number of entries in the buffer corresponding to each of the streams, and a comparator to compare the determined number of entries, for one of the streams, to a watermark and determine whether to initiate flow control for the one of the streams based on a result of the comparison, where the watermark is particular to the one of the streams and independent of another watermark set for another one of the streams.

Sundqvist and Vega-Garcia et al., whether taken alone or in any reasonable combination, do not disclose or suggest one or more of the features recited in claim 40. For example, Sundqvist and Vega-Garcia et al. do not disclose or suggest a counter to determine a number of entries in the buffer corresponding to each of the streams of variable speeds. *The Examiner did not address this feature of claim 40 (final Office*

Action, paragraph 1) and, therefore, did not establish a prima facie case of obviousness with regard to claim 40.

When rejecting a feature in claim 16, however, the Examiner alleged that Sundqvist discloses a counter to determine a number of entries in a buffer corresponding to each of the streams, and cited paragraph 0053, of Sundqvist for support (final Office Action, paragraph 17). Applicants submit that Sundqvist provides no support for the Examiner's allegation.

At paragraph 0053, Sundqvist discloses that the FCA decides if and how much a non real-time application should be reduced based on information received from a real-time application about the bandwidth that the real-time application is going to need. Nowhere in this section does Sundqvist disclose or remotely suggest a counter to determine a number of entries in the buffer corresponding to each of the streams of variable speeds, as recited in claim 40. Determining if and how much bandwidth, of a non real-time application, should be reduced is a completely different function with a completely different result than determining the number of entries, in a buffer, corresponding to each of the streams of variable speeds.

Sundqvist and Vega-Garcia et al. also do not disclose or suggest a comparator to compare the determined number of entries, for one of the streams, to a watermark and determine whether to initiate flow control for the one of the streams based on a result of the comparison, where the watermark is particular to the one of the streams and independent of another watermark set for another one of the streams, as further recited in claim 40.

The Examiner alleged that Sundqvist discloses these features, and cited paragraph 0054 of Sundqvist for support (final Office Action, paragraph 1). Applicants submit that Sundqvist provides no support for the Examiner's allegation.

At paragraph 0054, Sundqvist discloses reducing bandwidth used by non real-time application flows to make room for new real-time application flows, and ensuring that maximum limits of bandwidth for non real-time applications are not exceeded. Nowhere in this section, or elsewhere, does Sundqvist disclose or suggest a comparator to determine whether to initiate flow control for one of the streams of variable speeds based on a result of a comparison of the number of entries, for the one of the streams, to a watermark, let alone a comparator configured to compare the determined number of entries, for one of the streams, to a watermark and determine whether to initiate flow control for the one of the streams based on a result of the comparison, where the watermark is particular to the one of the streams and independent of another watermark set for another one of the streams, as further recited in claim 40. Setting a maximum limit on bandwidth use by non real-time application flows is a completely different function with a completely different result from comparing a determined number of entries, for one of the streams, to a watermark to determine whether to initiate flow control fro the one of the streams.

For at least these reasons, Applicants submit that claim 40 is patentable over Sundqvist and Vega-Garcia et al., whether taken alone or in any reasonable combination. Claims 41-44, 46, and 47 depend from claim 40 and are, therefore, patentable over Sundqvist and Vega-Garcia et al. for at least the reasons given with regard to claim 40.

Independent claims 48 and 55 recite features similar to, but possibly different in scope from, features identified above with regard to claim 40. Claims 48 and 55 are, therefore, patentable over Sundqvist and Vega-Garcia et al., whether taken alone or in any reasonable combination, for at least reasons similar to reasons given with regard to claim 40. Claims 49-54 depend from claim 48, and claim 64 depends from claim 55. Claims 49-54 and 64 are, therefore, patentable over Sundqvist and Vega-Garcia et al. for at least the reasons given with regard to claims 48 and 55.

Independent claim 56 is directed to a network device that comprises an input interface to receive a plurality of packets belonging to a plurality of streams of differing speeds, access a first arbitration scheme that services a faster one of the streams more often than a slower one of the streams, and output the packets based on the first arbitration scheme; input logic comprising flow control logic to initiate flow control on the packets output by the input interface, a memory to store the packets from the input interface, and a dispatch unit to access a second arbitration scheme that services the faster one of the streams more often than the slower one of the streams, and read the packets from the memory based on the second arbitration scheme; and one or more packet processors to process the packets from the dispatch unit.

Sundqvist and Vega-Garcia et al., whether taken alone or in any reasonable combination, do not disclose or suggest one or more of the features recited in claim 56. For example, Sundqvist and Vega-Garcia et al. do not disclose or suggest an input interface to, among other things, access a first arbitration scheme that services a faster one of the streams more often than a slower one of the streams and output packets based

on the first arbitration scheme, for at least reasons similar to reasons given with regard to claim 21.

Sundqvist and Vega-Garcia et al. also do not disclose or suggest a dispatch unit to access a second arbitration scheme that services the faster one of the streams more often than the slower one of the streams, and read packets from the memory based on the second arbitration scheme, as further recited in claim 56, for at least reasons similar to reasons given with regard to claim 21.

For at least these reasons, Applicants submit that claim 56 is patentable over Sundqvist and Vega-Garcia et al., whether taken alone or in any reasonable combination.

Independent claim 57 is directed to a network device that comprises means for receiving a plurality of packets belonging to a plurality of streams of potentially different speeds; means for storing the packets based on a first arbitration scheme that stores the packets based on the speeds of the streams to which the packets belong; means for performing flow control on the storing of the packets; means for reading the packets based on a second arbitration scheme that reads the packets based on the speeds of the streams to which the packets belong; and means for processing the packets read based on the second arbitration scheme.

Sundqvist and Vega-Garcia et al., whether taken alone or in any reasonable combination, do not disclose or suggest one or more of the features recited in claim 57. For example, Sundqvist and Vega-Garcia et al. do not disclose or suggest means for storing the packets based on a first arbitration scheme that stores the packets based on the speeds of the streams to which the packets belong. The Examiner did not specifically

address this feature (final Office Action, paragraph 1). Therefore, the Examiner did not establish a prima facie case of obviousness with regard to claim 57.

Sundqvist and Vega-Garcia et al. also do not disclose or suggest means for reading the packets based on a second arbitration scheme that reads the packets based on the speeds of the streams to which the packets belong, as further recited in claim 57. The Examiner did not specifically address this feature (final Office Action, paragraph 1). Therefore, the Examiner did not establish a prima facie case of obviousness with regard to claim 57.

For at least these reasons, Applicants submit that claim 57 is patentable over Sundqvist and Vega-Garcia et al., whether taken alone or in any reasonable combination.

In view of the foregoing amendments and remarks, Applicants respectfully request the Examiner's reconsideration of the application and the timely allowance of pending claims 1-44, 46-57, 59, and 61-64.

As Applicants' remarks with respect to the Examiner's rejections are sufficient to overcome these rejections, Applicants' silence as to certain assertions by the Examiner in the Office Action or certain requirements that may be applicable to such assertions (e.g., whether a reference constitutes prior art, reasons for modifying a reference and/or combining references, assertions as to dependent claims, etc.) is not a concession by Applicants that such assertions are accurate or such requirements have been met, and Applicants reserve the right to analyze and dispute these assertions/requirements in the future.

If the Examiner does not believe that all pending claims are now in condition for allowance, the Examiner is urged to contact the undersigned to expedite prosecution of this application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1070 and please credit any excess fees to such deposit account.

Respectfully submitted,

HARRITY & HARRITY, LLP

By: /Paul A. Harrity, Reg. No. 39574/
Paul A. Harrity
Reg. No. 39,574

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11350 Random Hills Road
Suite 600
Fairfax, Virginia 22030
(571) 432-0800
Customer No. 44987